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TITLE: Grinding or separating beads using crusher units comprising multistage crushing rolls having phase-deviated irregularities

INVENTOR: TOMIOKA, N**PATENT-ASSIGNEE:** BRIDGESTONE CORP (BRID)**PRIORITY-DATA:** 1999JP-0024063 (February 1, 1999)**PATENT-FAMILY:**

| PUB-NO | PUB-DATE | LANGUAGE | PAGES | MAIN-IPC |
|-----------------|-----------------|----------|-------|------------|
| WO 200045994 A1 | August 10, 2000 | J | 030 | B24C011/00 |
| JP 2000597095 X | May 28, 2002 | | 000 | B24C011/00 |
| AU 200023234 A | August 25, 2000 | | 000 | B24C011/00 |

DESIGNATED-STATES: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

APPLICATION-DATA:

| PUB-NO | APPL-DATE | APPL-NO | DESCRIPTOR |
|----------------|------------------|----------------|------------|
| WO 200045994A1 | January 31, 2000 | 2000WO-JP00516 | |
| JP2000597095X | January 31, 2000 | 2000JP-0597095 | |
| JP2000597095X | January 31, 2000 | 2000WO-JP00516 | |
| JP2000597095X | | WO 200045994 | Based on |
| AU 200023234A | January 31, 2000 | 2000AU-0023234 | |
| AU 200023234A | | WO 200045994 | Based on |

INT-CL (IPC): B24 C 11/00; C08 J 3/12**ABSTRACTED-PUB-NO:** WO 200045994A**BASIC-ABSTRACT:**

NOVELTY - Grinding or separating beads uses crusher units comprises using multistage crushing rolls having phase-deviated irregularities formed on the surfaces of each pair and which crushes thermosetting resin pieces into specified sizes.

DETAILED DESCRIPTION - Grinding or separating beads uses crusher units comprises using multistage crushing rolls having phase-deviated irregularities formed on the surfaces of each pair and which crushes thermosetting resin pieces into particle diameters of 50-1000 μm, each with amorphous polyhedral sharp edges, and of classification-based homogeneous grain sizes. INDEPENDENT CLAIMS are also included for (i) a method for producing the grinding beads comprising the manufacture of platy moldings of a thermosetting resin from the resin, carbon, synthetic graphite, metal powder or fiber, and colorant, together with pulp and glass fiber fine fabric for filling, followed by drying and curing; crushing with multi-stage rolls to form

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irregularities on surfaces of each pair of facing rolls by phase-deviation at one half of a pitch to mill the coarsely-crushed resin pieces into the required sizes; (ii) a device for producing the grinding beads comprising a coarse crusher with 2-mm edges and a powder roller with phase-deviation at one half of a pitch; (iii) a similar device in which a selection unit is also provided to sort out metal and other foreign material after crushing but before rolling with pulverization and classification with a specified device disposed downstream of the crushing unit; and (iv) another device in which a coarse crusher with 2-4 mm edges together with a selection unit to remove the undesirable materials through a destaticizing device, powder roller, classifier, dust-treatment unit, and packaging section.

USE - The method is for producing grinding or separating beads for use in grinding metal or synthetic resin components, removing coating films, rust, fins or adhesive layer e.g. from cans or car bumper, cleaning tools or fixtures, polishing road signs, and removing concrete surface dirt.

ADVANTAGE - The method is with ease of grain size adjustment and instantaneous separation and classification-based homogeneous grain sizes. By using the beads, materials can be cleaned without marring to allow reuse of the articles quickly, efficiently and evenly, without noise.

DESCRIPTION OF DRAWING(S) - Front view of a device for producing beads.

Mixing unit 12

flow-adjusting feeder 13A

selection unit 14

coarse-crushing unit 15

pulverization unit(17) switching valve 16

sieving part 18

classification unit 21-22

bagging device 23

destaticizing unit A

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EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg. 2/8

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